AUTHOR INDEX

Adams, M., see Chonan, T., 45

Afifi, M.S., see Bacon, D.S., 245

Anderson, J. W., Sarda, I. R. and Jennings, D. B., Acute changes in osmolality and renin and respiratory control of arterial P_{CO2} and [H⁺], 1

Arp, A. J., Doyle, M. L., Di Cera, E. and Gill, S. J., Oxygenation properties of the two co-occurring hemoglobins of the tube worm Riftia pachyptila, 323

Bacon, D. S., Afifi, M. S., Griebel, J. A. and Camporesi, E. M., Cerebrocortical oxygenation response during sustained hypoxia, 245

Benchetrit, G., see Shea, S.A., 33

Boutilier, R.G., see Tufts, B.L., 335

Brophy, C., see Mier, A., 193

Brown, L. K., Schwartz, J., Miller, A., Pilipski, M. and Teirstein, A. S., Respiratory drive and pattern during inertially-loaded CO₂ rebreathing: implications for models of respiratory mechanics in obesity, 231

Camporesi, E.M., see Bacon, D.S., 245

Carrithers, J., see Orr, J.A., 203

Cherniack, N.S., see Chonan, T., 45

Cherniack, N.S., see Runold, M., 299

Chonan, T., Adams, M., Von Euler, C. and Cherniack, N.S., Effects of focal cooling in the ventrolateral medulla on chemoresponsiveness in dogs, 45

Cormier, Y. and Sériès, F., Effects of lung volume and positive airway pressure on collateral resistance, 103

Cymerman, A., see Reeves, J.T., 147

De Troyer, A., see Estenne, M., 219

Dejours, P., Comparative aspects of maximal oxygen consumption, 155

Di Cera, E., see Arp, A.J., 323

Di Prampero, P. E. and Ferretti, G., Factors limiting maximal oxygen consumption in humans, 113 Doyle, M.L., see Arp, A.J., 323

Ernst, M., see Orr, J.A., 203

Estenne, M., Farkas, G. and De Troyer, A., Respiratory changes in abdominal configuration in supine dogs, 219

Farkas, G., see Estenne, M., 219

Ferretti, G., see Di Prampero, P.E., 113

Fitzgerald, R. S., see Thompson-Gorman, S. L.,

Ganzuka, M., see Kobayashi, T., 181

Gehr, P., see Schürch, S., 17

Geiser, M., see Schürch, S., 17

Gill, S.J., see Arp, A.J., 323

Graham, M.S., Turner, J.D. and Wood, C.M., Control of ventilation in the hypercapnic skate *Raja ocellata*: I. Blood and extradural fluid, 259

Graham, M.S., see Wood, C.M., 279

Green, F., see Schürch, S., 17

Green, M., see Mier, A., 193

Griebel, J.A., see Bacon, D.S., 245

Groves, B.M., see Reeves, J.T., 147

Guz, A., see Shea, S.A., 33

Hahn, G., see Šipinková, I., 171

Harding, R. and Wood, G. A., The role of carotid bodies in the establishment of oral breathing during nasal obstruction in lambs and ewes,

Hempleman, S.C., see Shams, H., 163

Hillebrecht, A., see Šipinková, I., 171

Hoppeler, H., The different relationship of $\dot{V}_{\rm O_2}$ max to muscle mitochondria in humans and quadrupedal animals, 137

Horner, R.L., see Shea, S.A., 33

Houston, C.S., see Reeves, J.T., 147

Im Hof, V., see Schürch, S., 17

Inman, J.D.G., see Scott, S.C., 83

Inui, S., see Kobayashi, T., 181

Jennings, D.B., see Anderson, J.W., 1

Kobayashi, T., Shido, A., Nitta, K., Inui, S., Ganzuka, M. and Robertson, B., The critical concentration of surfactant in fetal lung liquid at birth, 181

Martin, R. L. and Sinclair, J. D., Kainic acid on the rat ventral medullary surface depresses hypoxic and hypercapnic ventilatory responses, 55

Meyer, M., see Šipinková, I., 171

Mier, A., Brophy, C., Moxham, J. and Green, M., Influence of lung volume and cage configuration on transdiaphragmatic pressure during phrenic nerve stimulation in man, 193

Miller, A., see Brown, L.K., 231

Mitzner, W., see Thompson-Gorman, S.L., 307

Moss, I.R., see Scott, S.C., 83

Moxham, J., see Mier, A., 193

Munger, R.S., see Wood, C.M., 279

Nitta, K., see Kobayashi, T., 181

Orr, J.A., Ernst, M., Carrithers, J. and Shirer, H.W., Cardiopulmonary responses of HCl infusion are mediated by thromboxane A2 but not by serotonin, 203

Piiper, J., Unequal distribution of blood flow in exercising muscle of the dog, 129

Piiper, J., see Šipinková, I., 171

Pilipski, M., see Brown, L.K., 231

Powell, F.L., see Shams, H., 163

Prabhakar, N.R., see Runold, M., 299

Reeves, J.T., Groves, B.M., Cymerman, A., Sutton, J.R., Wagner, P.D., Turkevich, D. and Houston, C.S., Operation Everest II: cardiac filling pressures during cycle exercise at sea level, 147

Robertson, B., see Kobayashi, T., 181

Runold, M., Cherniack, N.S. and Prabhakar, N.R., Effect of adenosine on chemosensory activity of the cat aortic body, 299

Sarda, I.R., see Anderson, J.W., 1

Schürch, S., Gehr, P., Im Hof, V., Geiser, M. and Green, F., Surfactant displaces particles toward the epithelium in airways and alveoli, 17

Schwartz, J., see Brown, L.K., 231

Scott, S. C., Inman, J. D. G. and Moss, I. R., Ontogeny of sleep/wake and cardiorespiratory behavior in unanesthetized piglets, 83

Sériès, F., see Cormier, Y., 103

Shams, H., Powell, F.L. and Hempleman, S.C., Effects of normobaric and hypobaric hypoxia on ventilation and arterial blood gases in ducks, 163

Shea, S.A., Horner, R.L., Benchetrit, G. and Guz, A., The persistence of a respiratory 'personality' into Stage IV sleep in man, 33

Shido, A., see Kobayashi, T., 181

Shirer, H.W., see Orr, J.A., 203

Sinclair, J.D., see Martin, R.L., 55

Šipinková, I., Hahn, G., Hillebrecht, A., Meyer, M. and Piiper, J., Expirograms of O₂H₂, CO₂ and intravenously infused C₂H₂ and Freon-22 during panting in dogs, 171

Sutton, J.R., see Reeves, J.T., 147

Teirstein, A.S., see Brown, L.K., 231

Thompson-Gorman, S.L., Fitzgerald, R.S. and Mitzner, W., The role of chemical (CO₂) drive in the apnea induced by high frequency ventilation in the cat, 307

Tufts, B. L. and Boutilier, R. G., CO₂ transport in agnathan blood: evidence of erythrocyte Cl⁻/HCO₃⁻ exchange limitations, 335

Turkevich, D., see Reeves, J.T., 147

Turner, J.D., see Graham, M.S., 259

Turner, J.D., see Wood, C.M., 279

Von Euler, C., see Chonan, T., 45

Wagner, P.D., see Reeves, J.T., 147

Wood, C.M., Turner, J.D., Munger, R.S. and Graham, M.S., Control of ventilation in the hypercapnic skate *Raja ocellata*: II. Cerebrospinal fluid and intracellular pH in the brain and other tissues, 279

Wood, C.M., see Graham, M.S., 259

Wood, G.A., see Harding, R., 71

SUBJECT INDEX

- Abdominal configuration, Animal, dog, Electromyogram, respiratory muscle, Mechanics of breathing, abdominal configuration, Respiratory muscle, abdominal, activity and posture, activity and respiratory, gases, electrical activity, 219
- Acid-base balance, homeostasis of H⁺, Animal, dog, Atrial natriuretic peptide, Control of breathing, osmoreceptors, Mediator, angiotensin II, Osmoreceptor and respiration, Renin-angiotensin system and respiration, 1
- Adenosine, chemoreceptor, Animal, cat, Aortic body, Chemoreceptor, aortic bodies, Control of breathing, chemoreceptors, Hypoxia, aortic chemoreceptors, 299
- Aerodynamic valving, bird lungs, Airflow, airways of birds, Airway, airflow in, Animal, birds, Altitude, bird respiration, Hypoxia, bird respiration, 163
- Airflow, airways of birds, Aerodynamic valving, bird lungs, Airway, airflow in, Animal, birds, Altitude bird respiration, Hypoxia, bird respiration, 163
- Airway, Alveoli, Surface tension, Particle immersion, Subphase, Osmiophilic layer, 17
- Airway, airflow in, Aerodynamic valving, bird lungs, Airflow, airways of birds, Animal, birds, Altitude, bird respiration, Hypoxia, bird respiration, 163
- Airway pressure, Collateral airflow, extrathoracic, Animal, dog, Collateral airflow, lung volume, Mechanics of breathing, collateral airflow and lung volume, 103
- Allometry, Cold, Exercise, Mammal, Respiratory system, Scaling, 155
- Altitude, bird respiration, Aerodynamic valving, bird lungs, Airflow, airways of birds, Airway, airflow in, Animal, birds, Hypoxia, bird respiration, 163
- Alveolar ventilation, Animal, man, Diffusing capacity, pulmonary, Gas exchange, Hemoglobin, Cardiac output, maximal, O₂ consumption, maximal, Muscle morphometry, Blood, O₂ dissociation curve, 113

- Alveoli, Airway, Surface tension, Particle immersion, Subphase, Osmiophilic layer, 17
- Animal, birds, Aerodynamic valving, bird lungs, Airflow, airways of birds, Airway, airflow in, Altitude, bird respiration, Hypoxia, bird respiration, 163
- Animal, cat, Control of breathing, effects of thromboxane on ventilation, Prostanoid, thromboxane, Pulmonary circulation, thromboxane, Pulmonary vascular pressure, thromboxane, Serotonin, cardiorespiratory response, Thromboxane, cardiorespiratory response, release by acid infusion, 203
- Animal, cat, Adenosine, chemoreceptor, Aortic body, Chemoreceptor, aortic bodies, Control of breathing, chemoreceptors, Hypoxia, aortic chemoreceptors, 299
- Animal, cat, Apnea, Artificial ventilation, high frequency ventilation, Control of breathing, pulmonary mechanoreceptors, Receptor, Pulmonary mechanoreceptor, Ventilation, by high frequency, 307
- Animal, dog, Acid-base balance, homeostasis of H⁺, Atrial natriuretic peptide, Control of breathing, osmoreceptors, Mediator, angiotensin II, Osmoreceptor and respiration, Renin-angiotensin system and respiration, 1
- Animal, dog, Chemosensitivity, medulla, Control of breathing, medulla, response to hypercapnia and hypoxia, Diaphragm, EMG, Hypercapnia, ventilatory response, Hypoxia, ventilatory response, Technique in respiratory physiology, local cooling of brain structures, Ventilation, sensitivity to CO₂, sensitivity to O₂, 45
- Animal, dog, Airway pressure, Collateral airflow, extrathoracic, Collateral airflow, lung volume, Mechanics of breathing, collateral airflow and lung volume, 103
- Animal, dog, Diffusion, in alveolar gas, Gas mixing, intrapulmonary, Inert gas, Panting, gas mixing, 171
- Animal, dog, Abdominal configuration, Electromyogram, respiratory muscle, Mechanics of breathing, abdominal configuration, Respirato-

ry muscle, abdominal, activity and posture, activity and respiratory, gases, electrical activity, 219

Animal, hagfish, lamprey, Blood, CO₂ transport property, agnathan, Carbon dioxide, transport in blood, Ion transport, red cell, pH, red cell, Cl⁻/HCO₃ exchange, 335

Animal, man, Control of breathing, forebrain influences, Pattern of breathing, sleep and wakefulness, Rhythm generation, sleep and wakefulness, Technique in respiratory physiology, inductance plethysmography, 33

Animal, man, Alveolar ventilation, Diffusing capacity, pulmonary, Gas exchange, Hemoglobin, Cardiac output, maximal, O₂ consumption, maximal, Muscle morphometry, Blood, O₂ dissociation curve, 113

Animal, man, O₂ consumption, maximal, Mitochondrial, 137

Animal, man, Cardiac filling pressure, Cardiac output, Cardiac stroke volume, Exercise, Pressure, pulmonary arterial, pulmonary wedge, right atrial, 147

Animal, man, Diaphragm, contractility, dependence on lung volume, Lung volume, influence on diaphragmatic contractility, Phrenic nerve, stimulation, transdiaphragmatic pressure, Pressure, esophageal, gastric, transdiaphragmatic, Rib cage configuration, influence on diaphragm contractility, Technique in respiratory physiology, phrenic nerve stimulation (electric), 193

Animal, man, Control of breathing, chest wall inertance, Mechanics of breathing, chest wall inertance, Obesity, Occlusion pressure, Pattern of breathing, chest wall inertance, obesity, Rebreathing, 231

Animal, man, Blood volume in hypoxia, cortical, Control of breathing, isocapnic hypoxia, Cytochrome oxydase, Cyt a,a, in brain, Hypoxia, cerebrocortical oxygenation, ventilatory response, Technique on respiratory, near-infrared spectroscopy (NIR), Ventilation, sensitivity to hypoxia, 245

Animal, neonatal lamb, ewe, Carotid body, denervation, maturation, Nasal obstruction and oral breathing, Oral breathing, 71

Animal, piglet, Control of respiration, ontogeny, Electromyogram of respiratory muscles, Respiratory muscle, coordination, Sleep-wake state and cardiorespiratory parameters, 83

Animal, rat, Central chemosensitivity, Control of

breathing, ventral medulla, Kainic acid, Ventilation, sensitivity to hypoxia, sensitivity to CO₂, 55

Animal, rabbit, Fetal lung liquid, Neonatal lung, surfactant, Surfactant, 181

Animal, skate, Blood, O₂ transport properties in skate, Bohr effect in skate, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid in skate, response to CO₂, Hypercapnia, ventilatory response in skate, pH, intracellular, Red cell, intracellular pH in skate, Ventilation, sensitivity to CO₂ in skate, 259

Animal, skate, pH, cerebrospinal fluid of skate, Buffering, skate tissue, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid of skate, response to CO₂, Hypercapnia, ventilatory response of skate, pH, intracellular, Technique in respiratory physiology, DMO, Ventilation, sensitivity to CO₂ in skate, 279

Aortic body, Adenosine, chemoreceptor, Animal, cat, Chemoreceptor, aortic bodies, Control of breathing, chemoreceptors, Hypoxia, aortic chemoreceptors, 299

Apnea, Animal, cat, Artificial ventilation, high frequency ventilation, Control of breathing, pulmonary mechanoreceptors, Receptor, Pulmonary mechanoreceptor, Ventilation, by high frequency, 307

Artificial ventilation, high frequency ventilation, Animal, cat, Apnea, Control of breathing, pulmonary mechanoreceptors, Receptor, Pulmonary mechanoreceptor, Ventilation, by high frequency, 307

Atrial natriuretic peptide, Acid-base balance, homeostasis of H⁺, Animal, dog, Control of breathing, osmoreceptors, Mediator, angiotensin II, Osmoreceptor and respiration, Reninangiotensin system and respiration, 1

Blood flow, muscle, Diffusion limitation, muscle, Exercise, Model, Oxygen extraction, muscle, Shunt, muscle, Skeletal muscle, oxygen supply, 129

Blood volume in hypoxia, cortical, Animal, man, Control of breathing, isocapnic hypoxia, Cytochrome oxydase, Cyt a,a, in brain, Hypoxia, cerebrocortical oxygenation, ventilatory response, Technique on respiratory, near-infrared spectroscopy (NIR), Ventilation, sensitivity to hypoxia, 245

Blood, O₂ transport properties in skate, Animal,

- skate, Bohr effect in skate, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid in skate, response to CO₂, Hypercapnia, ventilatory response in skate, pH, intracellular, Red cell, intracellular pH in skate, Ventilation, sensitivity to CO₂ in skate, 259
- Blood, CO₂ transport property, agnathan, Animal, hagfish, lamprey, Carbon dioxide, transport in blood, Ion transport, red cell, pH, red cell, Cl⁻/HCO₃ exchange, 335
- Blood, O₂ dissociation curve, Alveolar ventilation, Animal, man, Diffusing capacity, pulmonary, Gas exchange, Hemoglobin, Cardiac output, maximal, O₂ consumption, maximal, Muscle morphometry, 113
- Bohr effect in skate, Animal, skate, Blood, O₂ transport properties in skate, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid in skate, response to CO₂, Hypercapnia, ventilatory response in skate, pH, intracellular, Red cell, intracellular pH in skate, Ventilation, sensitivity to CO₂ in skate, 259
- Buffering, skate tissue, Animal, skate, pH, cerebrospinal fluid of skate, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid of skate, response to CO₂, Hypercapnia, ventilatory response of skate, pH, intracellular, Technique in respiratory physiology, DMO, Ventilation, sensitivity to CO₂ in skate, 279
- Carbon dioxide, transport in blood, Animal, hagfish, lamprey, Blood, CO₂ transport property, agnathan, Ion transport, red cell, pH, red cell, Cl⁻/HCO₃ exchange, 335
- Cardiac filling pressure, Animal, man, Cardiac output, Cardiac stroke volume, Exercise, Pressure, pulmonary arterial, pulmonary wedge, right atrial, 147
- Cardiac output, maximal, Alveolar ventilation, Animal, man, Diffusing capacity, pulmonary, Gas exchange, Hemoglobin, O₂ consumption, maximal, Muscle morphometry, Blood, O₂ dissociation curve, 113
- Cardiac output, Animal, man, Cardiac filling pressure, Cardiac stroke volume, Exercise, Pressure, pulmonary arterial, pulmonary wedge, right atrial, 147
- Cardiac stroke volume, Animal, man, Cardiac filling pressure, Cardiac output, Exercise, Pres-

- sure, pulmonary arterial, pulmonary wedge, right atrial, 147
- Carotid body, denervation, maturation, Animal, neonatal lamb, ewe, Nasal obstruction and oral breathing, Oral breathing, 71
- Central chemosensitivity, Animal, rat, Control of breathing, ventral medulla, Kainic acid, Ventilation, sensitivity to hypoxia, sensitivity to CO₂, 55
- Cerebrospinal fluid, acid-base balance, Animal, skate, Blood, O₂ transport properties in skate, Bohr effect in skate, Control of breathing, cerebrospinal fluid in skate, response to CO₂, Hypercapnia, ventilatory response in skate, pH, intracellular, Red cell, intracellular pH in skate, Ventilation, sensitivity to CO₂ in skate, 259
- Cerebrospinal fluid, acid-base balance, Animal, skate, pH, cerebrospinal fluid of skate, Buffering, skate tissue, Control of breathing, cerebrospinal fluid of skate, response to CO₂, Hypercapnia, ventilatory response of skate, pH, intracellular, Technique in respiratory physiology, DMO, Ventilation, sensitivity to CO₂ in skate, 279
- Chemoreceptor, aortic bodies, Adenosine, chemoreceptor, Animal, cat, Aortic body, Control of breathing, chemoreceptors, Hypoxia, aortic chemoreceptors, 299
- Chemosensitivity, medulla, Animal, dog, Control of breathing, medulla, response to hypercapnia and hypoxia, Diaphragm, EMG, Hypercapnia, ventilatory response, Hypoxia, ventilatory response, Technique in respiratory physiology, local cooling of brain structures, Ventilation, sensitivity to CO₂, sensitivity to O₂, 45
- Cold, Allometry, Exercise, Mammal, Respiratory system, Scaling, 155
- Collateral airflow, extrathoracic, Airway pressure, Animal, dog, Collateral airflow, lung volume, Mechanics of breathing, collateral airflow and lung volume, 103
- Collateral airflow, lung volume, Airway pressure, Collateral airflow, extrathoracic, Animal, dog, Mechanics of breathing, collateral airflow and lung volume, 103
- Control of breathing, osmoreceptors, Acid-base balance, homeostasis of H⁺, Animal, dog, Atrial natriuretic peptide, Mediator, angiotensin II, Osmoreceptor and respiration, Reninangiotensin system and respiration, 1

- Control of breathing, forebrain influences, Animal, man, Pattern of breathing, sleep and wakefulness, Rhythm generation, sleep and wakefulness, Technique in respiratory physiology, inductance plethysmography, 33
- Control of breathing, medulla, response to hypercapnia and hypoxia, Animal, dog, Chemosensitivity, medulla, Diaphragm, EMG, Hypercapnia, ventilatory response, Hypoxia, ventilatory response, Technique in respiratory physiology, local cooling of brain structures, Ventilation, sensitivity to CO₂, sensitivity to O₂, 45
- Control of breathing, ventral medulla, Animal, rat, Central chemosensitivity, Kainic acid, Ventilation, sensitivity to hypoxia, sensitivity to CO₂, 55
- Control of respiration, ontogeny, Animal, piglet, Electromyogram of respiratory muscles, Respiratory muscle, coordination, Sleep-wake state and cardiorespiratory parameters, 83
- Control of breathing, effects of thromboxane on ventilation, Animal, cat, Prostanoid, thromboxane, Pulmonary circulation, thromboxane, Pulmonary vascular pressure, thromboxane, Serotonin, cardiorespiratory response, Thromboxane, cardiorespiratory response, release by acid infusion, 203
- Control of breathing, chest wall inertance, Animal, man, Mechanics of breathing, chest wall inertance, Obesity, Occlusion pressure, Pattern of breathing, chest wall inertance, obesity, Rebreathing, 231
- Control of breathing, isocapnic hypoxia, Animal, man, Blood volume in hypoxia, cortical, Cytochrome oxydase, Cyt a,a_3 in brain, Hypoxia, cerebrocortical oxygenation, ventilatory response, Technique on respiratory, near-infrared spectroscopy (NIR), Ventilation, sensitivity to hypoxia, 245
- Control of breathing, cerebrospinal fluid in skate, response to CO₂, Animal, skate, Blood, O₂ transport properties in skate, Bohr effect in skate, Cerebrospinal fluid, acid-base balance, Hypercapnia, ventilatory response in skate, pH, intracellular, Red cell, intracellular pH in skate, Ventilation, sensitivity to CO₂ in skate, 259
- Control of breathing, cerebrospinal fluid of skate, response to CO₂, Animal, skate, pH, cerebrospinal fluid of skate, Buffering, skate tissue,

- Cerebrospinal fluid, acid-base balance, Hypercapnia, ventilatory response of skate, pH, intracellular, Technique in respiratory physiology, DMO, Ventilation, sensitivity to CO₂ in skate, 279
- Control of breathing, chemoreceptors, Adenosine, chemoreceptor, Animal, cat, Aortic body, Chemoreceptor, aortic bodies, Hypoxia, aortic chemoreceptors, 299
- Control of breathing, pulmonary mechanoreceptors, Animal, cat, Apnea, Artificial ventilation, high frequency ventilation, Receptor, Pulmonary mechanoreceptor, Ventilation, by high frequency, 307
- Cytochrome oxydase, Cyt a,a, in brain, Animal, man, Blood volume in hypoxia, cortical, Control of breathing, isocapnic hypoxia, Hypoxia, cerebrocortical oxygenation, ventilatory response, Technique on respiratory, near-infrared spectroscopy (NIR), Ventilation, sensitivity to hypoxia, 245
- Diaphragm, EMG, Animal, dog, Chemosensitivity, medulla, Control of breathing, medulla, response to hypercapnia and hypoxia, Hypercapnia, ventilatory response, Hypoxia, ventilatory response, Technique in respiratory physiology, local cooling of brain structures, Ventilation, sensitivity to CO₂, sensitivity to O₂, 45
- Diaphragm, contractility, dependence on lung volume, Animal, man, Lung volume, influence on diaphragmatic contractility, Phrenic nerve, stimulation, transdiaphragmatic pressure, Pressure, esophageal, gastric, transdiaphragmatic, Rib cage configuration, influence on diaphragm contractility, Technique in respiratory physiology, phrenic nerve stimulation (electric), 193
- Diffusing capacity, pulmonary, Alveolar ventilation, Animal, man, Gas exchange, Hemoglobin, Cardiac output, maximal, O₂ consumption, maximal, Muscle morphometry, Blood, O₂ dissociation curve, 113
- Diffusion limitation, muscle, Blood flow, muscle, Exercise, Model, Oxygen extraction, muscle, Shunt, muscle, Skeletal muscle, oxygen supply, 129
- Diffusion, in alveolar gas, Animal, dog, Gas mixing, intrapulmonary, Inert gas, Panting, gas mixing, 171

- Electromyogram of respiratory muscles, Animal, piglet, Control of respiration, ontogeny, Respiratory muscle, coordination, Sleep—wake state and cardiorespiratory parameters, 83
- Electromyogram, respiratory muscle, Abdominal configuration, Animal, dog, Mechanics of breathing, abdominal configuration, Respiratory muscle, abdominal, activity and posture, activity and respiratory, gases, electrical activity, 219
- Exercise, Animal, man, Cardiac filling pressure, Cardiac output, Cardiac stroke volume, Pressure, pulmonary arterial, pulmonary wedge, right atrial, 147
- Exercise, Blood flow, muscle, Diffusion limitation, muscle, Model, Oxygen extraction, muscle, Shunt, muscle, Skeletal muscle, oxygen supply, 129
- Exercise, Allometry, Cold, Mammal, Respiratory system, Scaling, 155
- Fetal lung liquid, Animal, rabbit, Neonatal lung, surfactant, Surfactant, 181
- Gas exchange, Alveolar ventilation, Animal, man, Diffusing capacity, pulmonary, Hemoglobin, Cardiac output, maximal, O₂ consumption, maximal, Muscle morphometry, Blood, O₂ dissociation curve, 113
- Gas mixing, intrapulmonary, Animal, dog, Diffusion, in alveolar gas, Inert gas, Panting, gas mixing, 171
- Hemoglobin, Alveolar ventilation, Animal, man, Diffusing capacity, pulmonary, Gas exchange, Cardiac output, maximal, O₂ consumption, maximal, Muscle morphometry, Blood, O₂ dissociation curve, 113
- Hemoglobin, Oxygen binding, Riftia pachyptila, 315
- Hypercapnia, ventilatory response, Animal, dog, Chemosensitivity, medulla, Control of breathing, medulla, response to hypercapnia and hypoxia, Diaphragm, EMG, Hypoxia, ventilatory response, Technique in respiratory physiology, local cooling of brain structures, Ventilation, sensitivity to CO₂, sensitivity to O₂, 45
- Hypercapnia, ventilatory response in skate, Animal, skate, Blood, O₂ transport properties in skate, Bohr effect in skate, Cerebrospinal fluid, acid-base balance, Control of breathing, cere-

- brospinal fluid in skate, response to CO₂, pH, intracellular, Red cell, intracellular pH in skate, Ventilation, sensitivity to CO₂ in skate, 259
- Hypercapnia, ventilatory response of skate, Animal, skate, pH, cerebrospinal fluid of skate, Buffering, skate tissue, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid of skate, response to CO₂, pH, intracellular, Technique in respiratory physiology, DMO, Ventilation, sensitivity to CO₂ in skate, 279
- Hypoxia, aortic chemoreceptors, Adenosine, chemoreceptor, Animal, cat, Aortic body, Chemoreceptor, aortic bodies, Control of breathing, chemoreceptors, 299
- Hypoxia, bird respiration, Aerodynamic valving, bird lungs, Airflow, airways of birds, Airway, airflow in, Animal, birds, Altitude, bird respiration, 163
- Hypoxia, cerebrocortical oxygenation, ventilatory response, Animal, man, Blood volume in hypoxia, cortical, Control of breathing, isocapnic hypoxia, Cytochrome oxydase, Cyt a,a₃ in brain, Technique on respiratory, near-infrared spectroscopy (NIR), Ventilation, sensitivity to hypoxia, 245
- Hypoxia, ventilatory response, Animal, dog, Chemosensitivity, medulla, Control of breathing, medulla, response to hypercapnia and hypoxia, Diaphragm, EMG, Hypercapnia, ventilatory response, Technique in respiratory physiology, local cooling of brain structures, Ventilation, sensitivity to CO₂, sensitivity to O₂, 45
- Inert gas, Animal, dog, Diffusion, in alveolar gas, Gas mixing, intrapulmonary, Panting, gas mixing, 171
- Ion transport, red cell, Animal, hagfish, lamprey, Blood, CO₂ transport property, agnathan, Carbon dioxide, transport in blood, pH, red cell, Cl⁻/HCO₃ exchange, 335
- Kainic acid, Animal, rat, Central chemosensitivity, Control of breathing, ventral medulla, Ventilation, sensitivity to hypoxia, sensitivity to CO₂, 55
- Lung volume, influence on diaphragmatic contractility, Animal, man, Diaphragm, contractility, dependence on lung volume, Phrenic nerve,

- stimulation, transdiaphragmatic pressure, Pressure, esophageal, gastric, transdiaphragmatic, Rib cage configuration, influence on diaphragm contractility, Technique in respiratory physiology, phrenic nerve stimulation (electric), 193
- Mammal, Allometry, Cold, Exercise, Respiratory system, Scaling, 155
- Mechanics of breathing, collateral airflow and lung volume, Airway pressure, Collateral airflow, extrathoracic, Animal, dog, Collateral airflow, lung volume, 103
- Mechanics of breathing, abdominal configuration, Abdominal configuration, Animal, dog, Electromyogram, respiratory muscle, Respiratory muscle, abdominal, activity and posture, activity and respiratory, gases, electrical activity, 219
- Mechanics of breathing, chest wall inertance, Animal, man, Control of breathing, chest wall inertance, Obesity, Occlusion pressure, Pattern of breathing, chest wall inertance, obesity, Rebreathing, 231
- Mediator, angiotensin II, Acid-base balance, homeostasis of H⁺, Animal, dog, Atrial natriuretic peptide, Control of breathing, osmoreceptors, Osmoreceptor and respiration, Renin-angiotensin system and respiration, 1
- Mitochondria, O₂ consumption, maximal, Animal, man, 137
- Model, Blood flow, muscle, Diffusion limitation, muscle, Exercise, Oxygen extraction, muscle, Shunt, muscle, Skeletal muscle, oxygen supply, 129
- Muscle morphometry, Alveolar ventilation, Animal, man, Diffusing capacity, pulmonary, Gas exchange, Hemoglobin, Cardiac output, maximal, O₂ consumption, maximal, Blood, O₂ dissociation curve, 113
- Nasal obstruction and oral breathing, Animal, neonatal lamb, ewe, Carotid body, denervation, maturation, Oral breathing, 71
- Neonatal lung, surfactant, Animal, rabbit, Fetal lung liquid, Surfactant, 181
- O₂ consumption, maximal, Alveolar ventilation, Animal, man, Diffusing capacity, pulmonary, Gas exchange, Hemoglobin, Cardiac output, maximal, Muscle morphometry, Blood, O₂ dissociation curve, 113

- O₂ consumption, maximal, Mitochondria, Animal, man. 137
- Obesity, Animal, man, Control of breathing, chest wall inertance, Mechanics of breathing, chest wall inertance, Occlusion pressure, Pattern of breathing, chest wall inertance, obesity, Rebreathing, 231
- Occlusion pressure, Animal, man, Control of breathing, chest wall inertance, Mechanics of breathing, chest wall inertance, Obesity, Pattern of breathing, chest wall inertance, obesity, Rebreathing, 231
- Oral breathing, Animal, neonatal lamb, ewe, Carotid body, denervation, maturation, Nasal obstruction and oral breathing, 71
- Osmiophilic layer, Airway, Alveoli, Surface tension, Particle immersion, Subphase, 17
- Osmoreceptor and respiration, Acid-base balance, homeostasis of H⁺, Animal, dog, Atrial natriuretic peptide, Control of breathing, osmoreceptors, Mediator, angiotensin II, Reninangiotensin system and respiration, 1
- Oxygen binding, Hemoglobin, Riftia pachyptila, 323
- Oxygen extraction, muscle, Blood flow, muscle, Diffusion limitation, muscle, Exercise, Model, Shunt, muscle, Skeletal muscle, oxygen supply, 129
- pH, cerebrospinal fluid of skate, Animal, skate, Buffering, skate tissue, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid of skate, response to CO₂, Hypercapnia, ventilatory response of skate, pH, intracellular, Technique in respiratory physiology, DMO, Ventilation, sensitivity to CO₂ in skate, 279
- pH, intracellular, Animal, skate, Blood, O₂ transport properties in skate, Bohr effect in skate, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid in skate, response to CO₂, Hypercapnia, ventilatory response in skate, Red cell, intracellular pH in skate, Ventilation, sensitivity to CO₂ in skate, 259
- pH, intracellular, Animal, skate, pH, cerebrospinal fluid of skate, Buffering, skate tissue, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid of skate, response to CO₂, Hypercapnia, ventilatory response of skate, Technique in respiratory

- physiology, DMO, Ventilation, sensitivity to CO₂ in skate, 279
- pH, red cell, Cl⁻/HCO₃ exchange, Animal, hagfish, lamprey, Blood, CO₂ transport property, agnathan, Carbon dioxide, transport in blood, Ion transport, red cell, 335
- Panting, gas mixing, Animal, dog, Diffusion, in alveolar gas, Gas mixing, intrapulmonary, Inert gas, 171
- Particle immersion, Airway, Alveoli, Surface tension, Subphase, Osmiophilic layer, 17
- Pattern of breathing, sleep and wakefulness, Animal, man, Control of breathing, forebrain influences, Rhythm generation, sleep and wakefulness, Technique in respiratory physiology, inductance plethysmography, 33
- Pattern of breathing, chest wall inertance, obesity, Animal, man, Control of breathing, chest wall inertance, Mechanics of breathing, chest wall inertance, Obesity, Occlusion pressure, Rebreathing, 231
- Phrenic nerve, stimulation, transdiaphragmatic pressure, Animal, man, Diaphragm, contractility, dependence on lung volume, Lung volume, influence on diaphragmatic contractility, Pressure, esophageal, gastric, transdiaphragmatic, Rib cage configuration, influence on diaphragm contractility, Technique in respiratory physiology, phrenic nerve stimulation (electric), 193
- Pressure, pulmonary arterial, pulmonary wedge, right atrial, Animal, man, Cardiac filling pressure, Cardiac output, Cardiac stroke volume, Exercise, 147
- Pressure, esophageal, gastric, transdiaphragmatic, Animal, man, Diaphragm, contractility, dependence on lung volume, Lung volume, influence on diaphragmatic contractility, Phrenic nerve, stimulation, transdiaphragmatic pressure, Rib cage configuration, influence on diaphragm contractility, Technique in respiratory physiology, phrenic nerve stimulation (electric), 193
- Prostanoid, thromboxane, Animal, cat, Control of breathing, effects of thromboxane on ventilation, Pulmonary circulation, thromboxane, Pulmonary vascular pressure, thromboxane, Serotonin, cardiorespiratory response, Thromboxane, cardiorespiratory response, release by acid infusion, 203
- Pulmonary circulation, thromboxane, Animal, cat,

- Control of breathing, effects of thromboxane on ventilation, Prostanoid, thromboxane, Pulmonary vascular pressure, thromboxane, Serotonin, cardiorespiratory response, Thromboxane, cardiorespiratory response, release by acid infusion, 203
- Pulmonary vascular pressure, thromboxane, Animal, cat, Control of breathing, effects of thromboxane on ventilation, Prostanoid, thromboxane, Pulmonary circulation, thromboxane, Serotonin, cardiorespiratory response, Thromboxane, cardiorespiratory response, release by acid infusion, 203
- Pulmonary mechanoreceptor, Animal, cat, Apnea, Artificial ventilation, high frequency ventilation, Control of breathing, pulmonary mechanoreceptors, Receptor, Ventilation, by high frequency, 307
- Rebreathing, Animal, man, Control of breathing, chest wall inertance, Mechanics of breathing, chest wall inertance, Obesity, Occlusion pressure, Pattern of breathing, chest wall inertance, obesity, 231
- Receptor, Animal, cat, Apnea, Artificial ventilation, high frequency ventilation, Control of breathing, pulmonary mechanoreceptors, Pulmonary mechanoreceptor, Ventilation, by high frequency, 307
- Red cell, intracellular pH in skate, Animal, skate, Blood, O₂ transport properties in skate, Bohr effect in skate, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid in skate, response to CO₂, Hypercapnia, ventilatory response in skate, pH, intracellular, Ventilation, sensitivity to CO₂ in skate, 259
- Renin-angiotensin system and respiration, Acid-base balance, homeostasis of H⁺, Animal, dog, Atrial natriuretic peptide, Control of breathing, osmoreceptors, Mediator, angiotensin II, Osmoreceptor and respiration, 1
- Respiratory muscle, coordination, Animal, piglet, Control of respiration, ontogeny, Electromyogram of respiratory muscles, Sleep-wake state and cardiorespiratory parameters, 83
- Respiratory system, Allometry, Cold, Exercise, Mammal, Scaling, 155
- Respiratory muscle, abdominal, activity and posture, activity and respiratory, Abdominal configuration, Animal, dog, Electromyogram, respiratory muscle, Mechanics of breathing, ab-

dominal configuration, gases, electrical activity, 219

Rhythm generation, sleep and wakefulness, Animal, man, Control of breathing, forebrain influences, Pattern of breathing, sleep and wakefulness, Technique in respiratory physiology, inductance plethysmography, 33

Rib cage configuration, influence on diaphragm contractility, Animal, man, Diaphragm, contractility, dependence on lung volume, Lung volume, influence on diaphragmatic contractility, Phrenic nerve, stimulation, transdiaphragmatic pressure, Pressure, esophageal, gastric, transdiaphragmatic, Technique in respiratory physiology, phrenic nerve stimulation (electric), 193

Riftia pachyptila, Hemoglobin, Oxygen binding, 323

Scaling, Allometry, Cold, Exercise, Mammal, Respiratory system, 155

Serotonin, cardiorespiratory response, Animal, cat, Control of breathing, effects of thromboxane on ventilation, Prostanoid, thromboxane, Pulmonary circulation, thromboxane, Pulmonary vascular pressure, thromboxane, Thromboxane, cardiorespiratory response, release by acid infusion, 203

Shunt, muscle, Blood flow, muscle, Diffusion limitation, muscle, Exercise, Model, Oxygen extraction, muscle, Skeletal muscle, oxygen supply, 129

Skeletal muscle, oxygen supply, Blood flow, muscle, Diffusion limitation, muscle, Exercise, Model, Oxygen extraction, muscle, Shunt, muscle, 129

Sleep-wake state and cardiorespiratory parameters, Animal, piglet, Control of respiration, ontogeny, Electromyogram of respiratory muscles, Respiratory muscle, coordination, 83

Subphase, Airway, Alveoli, Surface tension, Particle immersion, Osmiophilic layer, 17

Surface tension, Airway, Alveoli, Particle immersion, Subphase, Osmiophilic layer, 17

Surfactant, Animal, rabbit, Fetal lung liquid, Neonatal lung, surfactant, 181

Technique in respiratory physiology, inductance plethysmography, Animal, man, Control of breathing, forebrain influences, Pattern of breathing, sleep and wakefulness, Rhythm generation, sleep and wakefulness, 33

Technique in respiratory physiology, local cooling of brain structures, Animal, dog, Chemosensitivity, medulla, Control of breathing, medulla, response to hypercapnia and hypoxia, Diaphragm, EMG, Hypercapnia, ventilatory response, Hypoxia, ventilatory response, Ventilation, sensitivity to CO₂, sensitivity to O₂, 45

Technique in respiratory physiology, phrenic nerve stimulation (electric), Animal, man, Diaphragm, contractility, dependence on lung volume, Lung volume, influence on diaphragmatic contractility, Phrenic nerve, stimulation, transdiaphragmatic pressure, Pressure, esophageal, gastric, transdiaphragmatic, Rib cage configuration, influence on diaphragm contractility, 193

Technique on respiratory, near-infrared spectroscopy (NIR), Animal, man, Blood volume in hypoxia, cortical, Control of breathing, isocapnic hypoxia, Cytochrome oxydase, Cyt a,a₃ in brain, Hypoxia, cerebrocortical oxygenation, ventilatory response, Ventilation, sensitivity to hypoxia, 245

Technique in respiratory physiology, DMO, Animal, skate, pH, cerebrospinal fluid of skate, Buffering, skate tissue, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid of skate, response to CO₂, Hypercapnia, ventilatory response of skate, pH, intracellular, Ventilation, sensitivity to CO₂ in skate, 279

Thromboxane, cardiorespiratory response, release by acid infusion, Animal, cat, Control of breathing, effects of thromboxane on ventilation, Prostanoid, thromboxane, Pulmonary circulation, thromboxane, Pulmonary vascular pressure, thromboxane, Serotonin, cardiorespiratory response, 203

Ventilation, sensitivity to CO₂, sensitivity to O₂, Animal, dog, Chemosensitivity, medulla, Control of breathing, medulla, response to hypercapnia and hypoxia, Diaphragm, EMG, Hypercapnia, ventilatory response, Hypoxia, ventilatory response, Technique in respiratory physiology, local cooling of brain structures, 45

Ventilation, sensitivity to hypoxia, sensitivity to CO₂, Animal, rat, Central chemosensitivity, Control of breathing, ventral medulla, Kainic acid, 55

Ventilation, sensitivity to hypoxia, Animal, man, Blood volume in hypoxia, cortical, Control of breathing, isocapnic hypoxia, Cytochrome oxydase, Cyt a,a₃ in brain, Hypoxia, cerebrocortical oxygenation, ventilatory response, Technique on respiratory, near-infrared spectroscopy (NIR), 245

Ventilation, sensitivity to CO₂ in skate, Animal, skate, Blood, O₂ transport properties in skate, Bohr effect in skate, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid in skate, response to CO₂, Hypercapnia, ventilatory response in skate, pH, intracellular, Red cell, intracellular pH in skate, 259

Ventilation, sensitivity to CO2 in skate, Animal,

skate, pH, cerebrospinal fluid of skate, Buffering, skate tissue, Cerebrospinal fluid, acid-base balance, Control of breathing, cerebrospinal fluid of skate, response to CO₂, Hypercapnia, ventilatory response of skate, pH, intracellular, Technique in respiratory physiology, DMO, 279

Ventilation, by high frequency, Animal, cat, Apnea, Artificial ventilation, high frequency ventilation, Control of breathing, pulmonary mechanoreceptors, Receptor, Pulmonary mechanoreceptor, 307